



GROUND GRANULATED BLAST FURNACE SLAG FIELD SECTION 1017

1017.1 SCOPE. To establish procedures for inspecting, sampling, and accepting of Ground Granulated Blast Furnace Slag (GGBFS) at the source and destination and to establish a list of qualified GGBFS sources. The list of qualified sources is shown in [Field Section FS-1017, Table 1](#) of this Manual, along with the district responsible for inspection.

1017.2 APPARATUS. All sample containers and equipment used in sampling shall be clean and free of moisture or any foreign material. It is important that the sample be kept in airtight, moisture-proof containers from the time it is obtained until tests are started. The apparatus shall consist of:

- (a) Canvas bags with plastic liners.
- (b) Rubber bands for securing the top of plastic liners.
- (c) Slotted tube, tube sampler, scoop, or any other device suitable for obtaining the sample.
- (d) Labeling materials.

1017.3 PROCEDURE.

1017.3.1 Source Acceptance and Qualification. All GGBFS for use in MoDOT projects shall be furnished from a manufacturer or terminal and shall comply with the requirements of Specification Sec 1017. The procedures for qualification are listed in Specification Sec 1017. Questions from potential suppliers concerning qualification should otherwise be directed to Central Support. The manufacturer's monthly report of quality control testing as required in Specification Sec 1017 is to be submitted to the source district. A copy of each manufacturer's quality control plan is to be kept on file in the source district and should be the basis for verifying the monthly report data submitted by the manufacturer. The monthly report data is to be verified, dated, and initialed and a copy shall be forwarded to the Chemical Laboratory Director.

1017.3.2 Sampling and Inspection.

1017.3.2.1 Source inspection of GGBFS shall be performed in accordance with the following procedure:

A quarterly split sample of the approved grade of GGBFS along with a split sample of the reference cement used by the manufacturer will be obtained by the district responsible for inspection. Samples are to be placed in a canvas bag containing a plastic liner and shipped to the Central Laboratory. The sample shall be properly labeled and sample information entered into SiteManager. Sample type shall be designated as "Quarterly Split Sample". Manufacturer's test results on the split sample shall be furnished direct to the Chemical



Laboratory Director by the manufacturer within two weeks after completion.

1017.3.2.2 For suppliers of GGBFS who ship infrequently, the district, with concurrence from the Chemical Laboratory Director, may establish an arrangement with the supplier to suspend inspection activities if that supplier is not anticipating shipping to MoDOT work, until such time that GGBFS is to be shipped to our work. In these cases, the supplier is required to continue quality control inspection at their facility in accordance with their quality control plan and to continue to submit monthly reports of QC testing to the district. Use of this procedure will require that the district request notification by the supplier well in advance of resuming GGBFS shipments to MoDOT work, so that normal inspection can be resumed. This option is not allowed for suppliers who anticipate shipping GGBFS to department work more frequently than once every three months. (Note that this option is intended to be used for suppliers located a long distance from the district responsible for inspection and who wish to be approved to supply GGBFS, but do not anticipate shipping to MoDOT work on a regular basis.)

1017.3.3 Disqualified Facilities. GGBFS producers that fail to comply with the qualified status as set forth in Specification Sec 1017 will be required to designate the silo(s), bin(s), or storage facility from which they propose to furnish GGBFS for MoDOT projects. The producer must sample, test, and report satisfactory test results for each designated silo, bin, or storage facility. Following a satisfactory report furnished to the district and copied to the Chemical Laboratory Director, each silo, bin, or storage facility will be sampled and sealed by the district and tested for approval by the Central Laboratory, prior to any shipment. This procedure will continue until adequate quality control has been reestablished.

1017.3.4 Destination Inspection of Approved or Certified GGBFS.

1017.3.4.1 MoDOT shall be furnished, at destination, a copy of the bill of lading or delivery receipt for each shipment.

1017.3.4.2 The following procedure should be used in sampling GGBFS on paving jobs and at ready-mix plants. Samples shall weigh a minimum of 5 lbs [2.25 kg] and may be obtained from storage bin or weigh hopper in one operation representing a brief period in the GGBFS stream.

1017.3.4.3 A sample shall be taken for each 125 tons [125 Mg] or portion thereof at destination for each paving job and submitted to the Central Laboratory.

1017.3.4.4 At ready-mix or precast plants, a sample shall be taken for each 125 tons [125 Mg] or portion thereof with a minimum of one sample per month during the period that the ready-mix or precast plant is furnished slag modified concrete for MoDOT work.

1017.3.4.5 Samples taken at destination are to be placed in a canvas bag containing a plastic liner and shipped to the Central Laboratory. The sample shall be properly labeled and pertinent sample information entered into SiteManager. Sample type shall be designated as "Proj – Check Sample".

